Docket No.: DE 030290

REMARKS

I. INTRODUCTION

Claims 1, 10 and 20 have been amended. Claims 6, 11 and 16 have been cancelled. No new matter has been added. Thus, claims 1-5, 7-10, 12-15 and 17-20 are pending in the present application. Applicants would like to thank the Examiner for withdrawing the claim objections and the 35 U.S.C. § 112 rejections. In view of the above amendment and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

Applicants respectfully submit that the Examiner should enter the above amendments because the recitations of cancelled dependent claims have merely been included in the independent claims. These recitations have been previously examined and searched by the Examiner, thus, no new search is required by the Examiner.

II. THE 35 U.S.C. § 102(b) REJECTIONS SHOULD BE WITHDRAWN

Claims 1-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated Kenneth R. Hoffmann, Andreas Wahle, Claire Pello-Barakat, Jack Sklansky & Milan Sonka, "Biplane X-ray Angiograms, Intravascular Ultrasound, and 3D Visualization of Coronary Vessels" International Journal of Cardiac Imaging, Dordrecht, NL, Vol. 15, No. 6 Dec. 1999 Pertinent Pages 495-512 (hereinafter "Hoffman"). (See 07/10/08 Office Action, p. 2-11).

Claims 6, 11 and 16 have been cancelled.

Claim 1 recites "wherein said space point is defined as that position on the projection line of the reference point at which the sum profile assumes an extreme." The Examiner asserts with respect to cancelled claim 6 that Hoffmann teaches this recitation in "Fig. 3, Page 499 Column 1 Line 22 – Column 2 Line 18 and Page 500 Column 1 Line 8 – Column 2 Line 26." (See 07/10/08 Office Action, p. 5). Applicants respectfully disagree.

Hoffmann describes calculating imaging geometry and utilizing triangulation to determine the position of 3D points that correspond to points in two 2D images. (See Hoffmann, p. 498, col. 1, ll. 25-28). Hoffmann states "for reconstruction of the vascular tree ... corresponding points along the vessels themselves must be identified in the two images." (See Hoffmann, p. 498, col. 1, ll. 28-31). Hoffmann requires identification of vessel centerlines and utilizes an epipolar-line technique for determining correspondence along the vessel centerlines. (See Hoffmann, p. 498, col. 1, ll. 38-42).

Hoffmann states "the 3D point corresponding to an image point must lie along the line connecting that image point with its corresponding focal spot." (See Hoffmann, p. 498, col. 1, ll. 44-47). Hoffmann further states "the positions along the vessel centerline in the second image are known. Therefore, the intersection of the vessel centerline in the second image and the epipolar line is taken as the point that corresponds to the vessel centerline point in the first image." (See Hoffmann, p. 498, col. 2, ll. 4-9). Finally, Hoffmann states "with the corresponding points in the two angiograms known and the imaging geometry known, the intersection in 3D space of the lines connecting the image points and their corresponding focal spots is taken as the 3D position of the point that corresponds to the two image points; i.e. *triangulation is used.*" ." (See Hoffmann, p. 498, col. 2, ll. 15-21) (emphasis added).

Hoffmann clearly utilizes triangulation to determine the position of an image point that corresponds to a point in 3D space. In contrast, claim 1 recites "a data processing device ... designed to reconstruct a space point corresponding to the reference point of the structure from further projection images produced from other directions using the image-processing unit, wherein the space point is reconstructed by evaluating other image points of the further projection images that lie on a respective epipolar line of the reference point, wherein gray scale values corresponding to the other image points are projected on a projection line of the reference point and added to form a sum profile and *wherein said space point is defined as that position on the projection line of the reference point at which the sum profile assumes an extreme.* Thus, Applicants respectfully submit that claim 1 is patentable over Hoffmann. Because claims 2-5 and 7-9 depend from, and therefore include all the limitations of claim 1, it is respectfully

submitted that these claims are also allowable for at least the same reasons given above with respect to claim 1.

Claim 10 recites "determining a space point corresponding to the reference point of the spatial structure from the further projection images, wherein the space point is determined based on image intensity of other image points of the further projection images that lie on a respective epipolar line of the reference point, wherein gray scale values corresponding to the other image points are projected on a projection line of the reference point and added to form a sum profile for determining the space point and wherein the space point is defined as that position on the projection line of the reference point at which the sum profile assumes an extreme." Thus, Applicants respectfully submit that claim 10 is allowable for at least the same reasons as claim 1. Because claims 12-15 and 17-19 depend from, and therefore include all the limitations of claim 10, it is respectfully submitted that these claims are also allowable for at least the same reasons given above with respect to claim 10.

Claim 20 recites "determining a space point corresponding to the reference point of the spatial structure from a summation of at least a portion of the image intensities, wherein the space point is defined as that position at which the summation assumes an extreme." Thus, Applicants respectfully submit that claim 20 is allowable for at least the same reasons as claim 1.

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CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the now pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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